

Examiner's Amendment and Statement of Reasons for Allowance

1. This action is responsive to Applicant's amendment filed July 10, 2008.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Aaron J. Capron, Registration Number 56,170, on October 23, 2008 for obviating any potential 101 issues and put the claims in condition for allowance.

The application has been amended as follows:

AMENDMENTS TO THE abstract:

The invention relates to computer-implemented methods and systems for providing comments within source code. For providing access management to the comments, in one aspect, the comments are stored separately from the source code, the comments are retrieved from the storage medium, and the retrieved comments are displayed with the ~~retrieved comments~~ source code. In certain aspects, filter information may be stored with one or more comments and the comments may be provided based on filter information. The filter information may be used to block a requesting user from having access to certain comments.

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Access authorisation information may also be used to control access to the comment information.

AMENDMENTS TO THE Drawings:

Figures 4 and 5.

Annotated Sheet

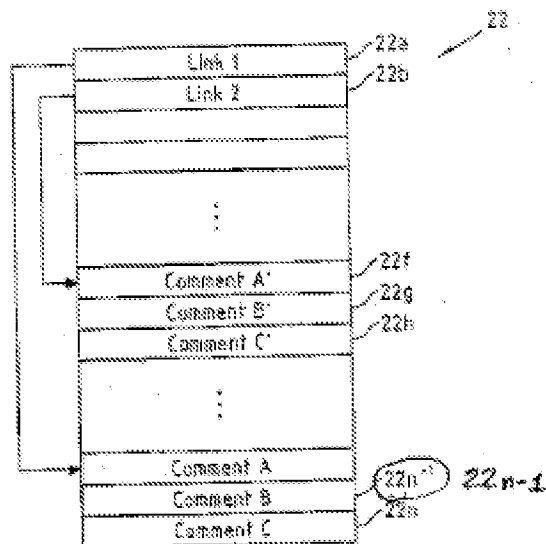


Fig.4

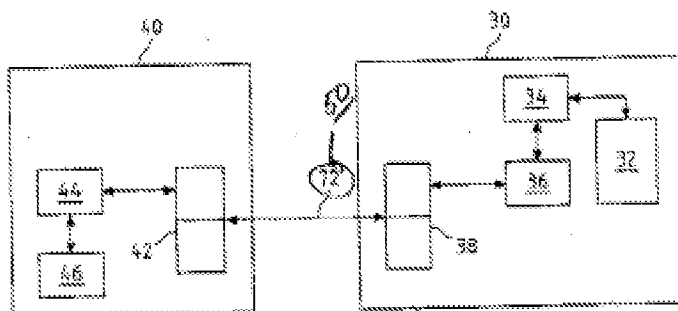


Fig.5

REPLACEMENT SHEET

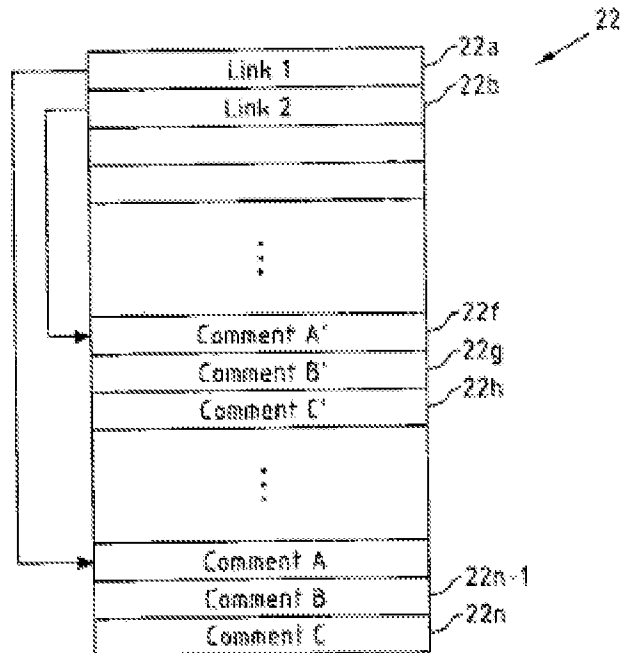


Fig.4

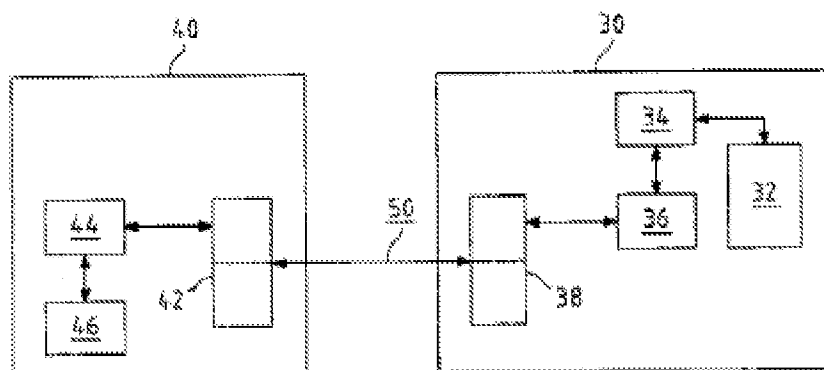


Fig.5

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A computer-implemented method for associating one or more comments with source code, the method comprising:

storing, in a storage, the one or more comments separately from the source code, wherein the source code comprises one or more links including storage information for obtaining the one or more comments;

identifying where each of the one or more comments is associated with the source code; and

enabling a provision of the one or more comments within the source code~~[[;]]~~, wherein enabling the provision of the one or more comments within the source code occurs according to filter information assigned to the one or more comments and includes:

receiving a request to access one or more links, wherein filter information is assigned to the one or more links,

accessing the one or more links based on the received request,

obtaining the one or more comments from the storage based on a comparison between ~~comparing~~ access authorization information ~~pertaining to a context in which the comments would be provided with~~ and the filter information assigned to the one or more links, and

providing the one or more obtained comments, for displaying the one or more obtained comments and the source code, ~~only~~ if the filter information matches the access authorization information.

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2-6. (Cancelled)

7. (Currently Amended) The computer-implemented method of claim 1, wherein the access authorization information is obtained prior to ~~retrieving~~ obtaining the one or more comments from the storage, the access authorization information determining whether the one or more comments may be accessed.

8-11. (Cancelled)

12. (Currently Amended) The computer-implemented method of claim ~~40~~ 1, wherein enabling the provision further includes:

analyzing the access authorization information to determine which links may be accessed; and

activating the one or more links that may be accessed.

13. (Currently Amended) The computer-implemented method of claim ~~40~~ 1, wherein the one or more links are assigned to particular elements of the source code.

14. (Currently Amended) The computer-implemented method of claim ~~40~~ 1, wherein displaying the ~~retrieved~~ one or more obtained comments together with the

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source code includes replacing the accessed one or more links within the source code with the one or more comments.

15. (Currently Amended) The computer-implemented method of claim ~~40~~ 1, wherein enabling the provision further includes:

analyzing the access authorization information to determine which links may be accessed; and

displaying in the source code the one or more links that may be accessed.

16. (Previously Presented) The computer-implemented method of claim 1, wherein at least one element of the source code is associated with more than one comment one or more comments stored within the storage.

17. (Currently Amended) The computer-implemented method of claim 1, wherein enabling the provision of the one or more comments within the source code further includes:

~~retrieving~~ obtaining all the comments from the storage;

selecting according to the filter information which comments to suppress within the source code; and

displaying together with the source code the ~~retrieved~~ one or more obtained comments not selected to be suppressed.

18. (Currently Amended) The computer-implemented method of claim 1, wherein the one or more comments are stored within a database.

19. (Currently Amended) The computer-implemented method of claim 1, wherein the one or more comments include one or more language-dependent comments having language information, wherein ~~retrieving~~ obtaining the one or more comments includes ~~retrieving~~ obtaining the language information, and wherein enabling the provision of the one or more comments includes considering the language information, and wherein the provision of the one or more comments includes the provision of the one or more language-dependent comments according to the language information.

20. (Previously Presented) The computer-implemented method of claim 1, wherein the filter information includes a user role.

21. (Previously Presented) The computer-implemented method of claim 1, wherein the filter information includes a user group.

22. (Previously Presented) The computer-implemented method of claim 1, wherein the filter information includes a source code version.

23. (Cancelled)

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24. (Currently Amended) A computer readable memory storing instructions that, when executed by a computer, causes the computer to perform a method ~~program product~~ for associating one or more comments with source code, the ~~program stored in memory and comprising instructions operable to cause a~~ processor to method comprising:

~~store~~storing the one or more comments separately from the source code, wherein the source code comprises one or more links including storage information for retrieving the one or more comments;

~~identify~~identifying where each of the one or more comments is associated with the source code;

receiving a request to access one or more links, wherein filter information is assigned to the one or more links,

accessing the one or more links based on the received request,

obtaining the one or more comments based on a comparison between ~~transmit~~ ~~access authorization information to the storage when retrieving the comments;~~ ~~compare the~~ access authorization information with and filter information assigned to the one or more links ~~associated with the comments~~; and

~~provide~~ providing the one or more obtained comments, for displaying the one or more obtained comments and the source code, ~~only~~ if the filter information matches the access authorization information.

25-28. (Cancelled)

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29. (Currently Amended) The computer readable memory program ~~product~~ of claim 24, ~~the computer program~~ further comprising instructions operable to cause the computer processor to ~~retrieve~~ obtain access authorization information prior to ~~retrieving~~ obtaining the one or more comments from the storage, the access authorization information determining which of the one or more comments may be ~~retrieved~~ obtained.

30. (Cancelled)

31. (Cancelled)

32. (Currently Amended) The computer readable memory program ~~product~~ of claim ~~24-31~~, ~~the computer program~~ further comprising instructions operable to cause the computer processor to activate the one or more links for use, compare access authorization information with the filter information associated with a link when the link is used, and execute the link to ~~retrieve~~ obtain the one or more comments ~~only~~ if the filter information matches the access authorization information.

33. (Currently Amended) The computer readable memory program ~~product~~ of claim ~~24-30~~, ~~the computer program~~ further comprising instructions operable to cause the computer processor to ~~retrieve~~ obtain access authorization information prior to the one or more links being used to ~~retrieve~~ obtain the one or more

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comments from the storage, the access authorization information determining whether the one or more links may be executed when accessing the one or more comments.

34. (Currently Amended) The computer readable memory program product of claim 24-30, ~~the computer program~~ further comprising instructions operable to cause the computer processor to associate the one or more links with particular elements of the source code.

35. (Currently Amended) The computer readable memory program product of claim 24-30, ~~the computer program~~ further comprising instructions operable to cause the computer processor to present the one or more comments within the source code by replacing a link within the source code with the one or more comments when the link is executed.

36. (Currently Amended) The computer readable memory program product of claim 24-30, ~~the computer program~~ further comprising instructions operable to cause the computer processor to ~~retrieve~~ obtain access authorization information prior to revealing the one or more links, the access authorization information determining whether the link is visible within the source code.

37. (Currently Amended) The computer readable memory program product of claim 24, ~~the computer program~~ further comprising instructions operable to cause

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the computer processor to associate at least one element of the source code with ~~more than one comment~~ one or more comments stored within the storage.

38. (Currently Amended) The computer readable memory program product of claim 24, ~~the computer program~~ further comprising instructions operable to cause the computer processor to ~~retrieve~~ obtain all comments before presenting the received one or more comments within the source code, to analyze the filter information of the one or more comments to select the one or more comments to suppress, and ~~[[,]]~~ to present within the source code the ~~retrieved~~ one or more obtained comments that were not suppressed.

39. (Currently Amended) The computer readable memory program product of claim 24, ~~the computer program~~ further comprising instructions operable to cause the computer processor to store the one or more comments within a database.

40. (Currently Amended) The computer readable memory program product of claim 24, ~~the computer program~~ wherein the one or more comments include one or more language-dependent comments, further comprising instructions operable to cause the computer processor to store ~~storage~~ one or more language-dependent comments having language information, to ~~retrieve~~ obtain the language information with the one or more language-dependent comments, to analyze the language information, and to present the one or more language-dependent comments according to the analysis of the language information.

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41. (Cancelled)

42. (Currently Amended) A computer system for associating one or more comments with source code, the system comprising:

a first storage medium storing the source code, wherein the source code comprises one or more links including storage information for retrieving the one or more comments;

a second storage medium storing the one or more comments, the second storage medium being separate from the first storage medium; and

a computer comprising a processor in communication with the first storage medium and the second storage medium; and

a computer program having instructions operable to cause the processor to store the one or more comments separately from the source code in the second storage medium, to identify where each of the one or more comments is associated with the source code, to ~~retrieve~~ obtain the source code from the first storage medium, to display the source code on the computer, to receive a request to access one or more links that include filter information, to access the one or more links based on the received request, to retrieve to obtain the one or more comments from the second storage medium based on a comparison between access authorization information and filter information of the one or more links, and to provide the ~~retrieved~~ one or more obtained comments, for displaying the one or more obtained comments and the source code, if the filter information matches the access authorization information ~~with the source code.~~

43. (Cancelled)

44. (Cancelled)

45. (Currently Amended) The computer system of claim 42, wherein the computer program further includes instructions operable to cause the processor to associate filter information with the one or more comments for filtering the one or more comments.

46. (Cancelled)

47. (Currently Amended) The computer system of claim ~~42~~ 46, wherein the computer program further includes instructions operable to cause the processor to compare the access authorization information prior to ~~retrieving~~ obtaining the comment from the second storage medium, the access authorization information determining whether the comment may be ~~retrieved~~ obtained.

48. (Currently Amended) The computer system of claim 42, wherein the computer program further includes instructions operable to cause the processor to use one or more links containing storage information of the one or more comments to indicate where the one or more comments belong within the source code.

49. (Currently Amended) The computer system of claim 48, wherein the one or more links are associated with filter information for filtering the one or more comments.

50. (Currently Amended) The computer system of claim 49, wherein the computer program further includes instructions operable to cause the processor to compare access authorization information with the filter information of a link, and to execute the link to ~~retrieve~~ obtain the one or more comments ~~only~~ if the filter information matches the access authorization information.

51. (Currently Amended) The computer system of claim 48, wherein the computer program further includes instructions operable to cause the processor to analyze access authorization information prior to attempted execution of the one or more links to ~~retrieve~~ obtain the one or more comments from the second storage medium, the access authorization information determining which of the one or more links may be used to ~~retrieve~~ obtain the one or more comments.

52. (Currently Amended) The computer system of claim 48, wherein the one or more links are associated with particular portions of the source code.

53. (Currently Amended) The computer system of claim 48, wherein the instructions operable to cause a processor to provide the ~~retrieved~~ one or more

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obtained comments within the source code by replacing the one or more links with the one or more comments when the one or more links are executed.

54. (Currently Amended) The computer system of claim 48, wherein the computer program further includes instructions operable to cause the processor to analyze access authorization information prior to attempted execution of the one or more links to ~~retrieve~~ obtain the one or more comments from the second storage medium, the access authorization information determining which of the one or more links are visible when the source code is displayed.

55. (Previously Presented) The computer system of claim 42, wherein at least one portion of source code is associated with more than one comment.

56. (Currently Amended) The computer system of claim 42, wherein the computer program further includes instructions operable to cause a processor to ~~retrieve~~ obtain all comments before providing the received one or more comments within the source code, to analyze filter information of the one or more comments to select the one or more comments to suppress, and[[,]] to provide within the source code the ~~retrieved~~ one or more obtained comments that were not suppressed.

57. (Currently Amended) The computer system of claim 42, wherein the second storage medium includes a database for storing the one or more comments.

58. (Currently Amended) The computer system of claim 42, wherein the one or more comments include one or more language-dependent comments having language information, and wherein the computer program further includes instructions operable to cause the processor to ~~retrieve~~ obtain the language information with the one or more language-dependent comments, to analyze the language information, and to provide the one or more language-dependent comments according to the analysis of the language information.

-- The End --

Examiner's Statement of Reason(s) for Allowance

3. Claims 1, 7, 12-22, 24, 29, 40, 42, 45, 47-58 are allowed.
4. The following is an examiner's statement of reasons for allowance:
The prior arts of record: **Mor** et al., teaches Techniques for forming an application from a particular file that has source code in a particular language include receiving, from the particular file, comment data. The comment data is ignored according to the particular language. The comment data includes build data indicating how to use the source code in a build process. The build process packages compiled code to form the application. Based on the build data in the comment data, build-input data is generated. **Shupak**, teaches n annotation source representation is supported by a compiler and/or linker to annotate program code, so that analysis tools, such as debuggers and profilers, have more information

with which to analyze an executable program. The annotation source representation in the source code is compiled into annotation information so that the annotation remains in the executable code, but is not executed. The annotation information in the executable program is associated with the code that the annotation function is associated with. **Grassens**, teaches a debugging tool for computer program development that analyzes the computer program adds output statements at strategic locations throughout the program. The output statements may include the filename and line number of the original source code and may further include a listing of the executed command as well as values of certain expressions and/or variables as defined by the requested verbosity. The verbosity may be set at different levels throughout the source code as required. **De Jong**, teaches a method for verification of a software program may be automated by receiving a program source file comprising program source code and at least one formal specification annotation, extracting the at least one formal specification annotation from the program source file, compiling the program source code and linking the compiled program and the at least one extracted formal specification annotation to create an executable program that includes at least one reference to an executable formal specification module. **Lyapustina** et al., teaches a method and apparatus for transforming character strings that are contained in a unit of code. A conversion mechanism performs a macro substitution by transforming hard coded strings into unique macro strings. The conversion mechanism is configured to receive a set of computer instructions that are contained in one or more files. The conversion mechanism parses the instructions to identify character strings included within the computer instructions, while copying the files to one or more output source code files. Upon identifying each string, the

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conversion mechanism generates a unique macro string as a substitute for the original string. **Knudsen et al.**, teaches a system comprises a virtual stack machine, which operates based on a simple instruction set to execute programs of instructions. In addition, a data base having a unique access structure stores all the dictionary information required for binding during run time of objects stored in the data base to the program being executed. Finally, a data access method, optimized for the access structure, performs all the access functions on the dictionary, sub-routines, and data to be used by the program being executed. **Maghbouleh**, teaches a system and method for documenting and displaying computer program code comprises a token annotation unit, a comment analyzer, a token parsing library, and a code outline unit. The token parsing library parses a program comprising related program code files into a set of constituent tokens. The token annotation unit selectively associates one or more annotations with tokens in a program by creating a token annotation object. **Beust**, teaches a system and method for generating code for an Enterprise Java Bean comprising generating at least one output based on a description of at least one Enterprise Java Bean, wherein the description is attended by at least one annotation. A system and method for generating an annotated description of an Enterprise Java Bean based on at least one input, wherein the description can be used to generate the at least one input. **Chambers et al.**, teaches a system is disclosed that implements a declarative, annotation based dynamic compilation of the source code, employing a partial evaluation, binding-time analysis (BTA), and including program-point-specific polyvariant division and specialization and dynamic versions of traditional global and peephole optimizations. The system allows programmers to declaratively specify policies that govern the

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aggressiveness of specialization and caching, providing fine control over the dynamic compilation process. **Flanagan** et al., teaches a method and apparatus for organizing warning messages generated by a computer program analyzer. A computer program analyzer generates a set of warning messages based upon potentially erroneous portions of a computer program, where each warning message identifies at least one potential error in the computer program. An inference engine infers from a subset of the set of warning messages at least one suggested-fix heuristic corresponding to each identified potential error in the subset of the set of warning messages. An association module associates each suggested-fix heuristic with the warning message containing the corresponding identified potential error. **Hershberg** et al., teaches Techniques for binding a data exchange format with a computer program application having source code in a particular language include receiving comment data from a particular file that includes the source code. The comment data includes first data indicating a parameter of the data exchange format. Second data from the particular file is also received. The second data is associated with the comment data and includes a statement that defines a class of data objects in the particular language. Based on the first data and the second data, third data for configuring the data exchange format is generated. **Balance** et al., teaches a language-based editing and browsing system, which does incremental checking and analysis, information retention in the presence of change, tolerance for errors and anomalies, and extension facilities. New arts made of record: US Patent No. 7,194,679 by **Green**, teaches a system for reviewing files which permits comments to be inserted in files to be viewed with a hypertext browser. When the hypertext mark-up language employed is HTML, text files are converted to an HTML representation.

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An HTML file is represented by a linked list of objects. Comment insertion markers and comment display objects are inserted at predefined points in the HTML linked list representation. The linked list is stored as a binary file and has a comment file associated with it. Access to the HTML file by reviewers and authors causes the regeneration of the HTML document by a Common Gateway Interface which recreates the linked list representation of the document from the binary file and which then generates HTML code from the linked list.

Comments may be entered by reviewers working in parallel on the HTML document. Comments are displayed as inserted at the next regeneration of the HTML document by the system. US Patent No. 7,146,565 by **Toyama** et al., teaches an apparatus, method, and program product for editing a structured document is disclosed. A transformation unit transforms a first XSLT document into a second XSLT document, to which a command for editing documents is added based on a structure of the first XSLT document. A generation unit generates a second structured document by transforming a first structured document with the second XSLT document. US Patent No. 6,865,713 by **Bates** et al., teaches an apparatus, program product, and method support the annotation of a hypertext document with one or more comments to supply additional information to a user about that document and/or about other documents linked to that document. With the latter type of comments, such comments are displayed to a user prior to the user attempting to retrieve any hypertext document associated with such comments, so that the user can make a more informed decision prior to retrieving the hypertext document. US Patent No. 5,956,708 by **Dyko** et al., teaches a process for professional authoring of information about structured domains (i.e., not including fiction) by which authors, as an integral part of the

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authoring process, provide the data needed to (1) enable intelligent user navigation between the work of different authors without the need for predefined links; (2) enable searches for information based on user context; and (3) identify reuse candidates before information is written and, therefore, minimize duplication. Authors develop concept maps to reflect the structure of the domain rather than the structure of the documentation; define the user context to which a concept map applies; resolve topic intersections between concept maps; define query attributes for articles to be developed; and resolve article intersections identified by means of intersecting query attributes.

US Patent No. 5,826,025 by **Granlich**, teaches a system and method for providing annotation overlays from diverse sources of commentary for World-Wide Web documents is disclosed. Sources of commentary contribute annotation overlays regarding particular documents on the World-Wide Web. The annotation overlays from a particular source are stored on one or more overlay servers, which are connected to the Web. A user of a Web browser opens an annotation proxy server between the Web browser and the Web servers that intercepts all documents retrieved by the Web browser and merges with the retrieved documents commentary from sources designated by the user of the Web browser that refer to the requested documents. US Patent No. 5,802,299 by **Logan** et al., teaches a network based hypertext display system employing a supervisory computer interconnected with one or more information display units and one or more remote document servers via a network, such as the Internet. The supervisory computer controls the content displayed by the display units by transferring to each unit a control information file as well as hypertext document files which

are locally stored in the display units. The control file determines the extent to which the display unit can access remotely stored information and provides additional information which is used to alter the presentation to the user. Stored control information is used to rewrite hypertext document such that certain links are disabled, and to suppress the appearance of visual cues associated with the displayed anchor which identifies selected links in the referencing document. US Patent No. 5,761,683 by **Logan** et al., teaches a network based hypertext display system employing a supervisory computer interconnected with one or more information display units and one or more remote document servers via a network, such as the Internet. The supervisory computer controls the content displayed by the display units by transferring to each unit a control information file as well as hypertext document files which are locally stored in the display units. The control file determines the extent to which the display unit can access remotely stored information and provides additional information which is used to alter the presentation to the user. Stored control information is used to rewrite hypertext document such that certain links are disabled, and to suppress the appearance of visual cues associated with the displayed anchor which identifies selected links in the referencing document. Links and other information in local and remotely accessed documents are rewritten in accordance with commands created by a content developer using an interactive content authoring system. US Patent No. 6,295,542 by **Corbin**, teaches a system which the software design documentation can be dynamically modified (no predefined configuration parameter is evaluated). US 2006/0047639 by **King** et al., teaches An action plan data structure for one or more selected rendered documents is described. The data

structure contains information specifying an action to perform automatically in response to a text capture from any of the selected rendered documents.

US 2005/0005168 by **Dick**, teaches a method for creating a database of verified personal information. Information regarding individuals is gathered from one or more sources and stored. Authorized individuals request to view the information over a wide area computer network. The authorized individuals are allowed to review selected portions of the gathered information which is presented over the wide area computer network. Commentary from the authorized users on the accuracy of said the information is solicited and included in the database with information. Third parties do not have access to the database of verified personal information but can verify information outside of the database. US 2003/0145282 by **Thomas**, teaches a computer-based method parses and hashes source information comprising a combined grammar to create documentation for the source information. The computer-based method processes lines of the source information written using a first grammar with a first parser-hashier to generate annotations for the source information written using the first grammar. The computer-based method processes lines of the source information written using a second grammar with a second parser-hashier different from the first parser-hashier to generate annotations for the source information written using the second grammar. However, none of them, taken alone or in combination, teaches the features in such a manner as recited in independent claims 1, 24, and 42.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Ching Chow whose telephone number is 571-272-3693. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Chih-Ching Chow/

Examiner, Art Unit 2191

11/10/08

/Wei Y Zhen/

Supervisory Patent Examiner, Art Unit 2191